

MINUTES
OF
THE UTAH RADIATION CONTROL BOARD
August 6, 2004
Department of Environmental Quality (Bldg. #2)
Conference Room 101
168 North 1950 West
Salt Lake City, Utah 84114-4250

BOARD MEMBERS PRESENT

Karen S. Langley, M.S., Chair
Stephen T. Nelson, Ph.D., Vice Chair
Dianne R. Nielson, Ph.D., Director of DEQ
Dane Finerfrock, Executive Secretary
Kent J. Bradford, P.G.
Linda M. Kruse, M.S.
Gregory G. Oman, D.D.S., B.S.
Robert S. Pattison, B.S.
Dan L. Perry, B.S.
John W. Thomson, M.D.
Gene D. White, Commissioner

PUBLIC

Judy Fahys, Salt Lake Tribune
Dave Frydenlund,
Intern'l Uranium (USA), Corp. (IUC)
Jason Groenewold, HEAL Utah
Tye Rogers, Envirocare of Utah, Inc.

BOARD MEMBERS ABSENT/EXCUSED

Keith C. Barnes, J.D.
Gary L. Edwards, M.S.
Rod O. Julander, Ph.D.

**DRC STAFF/OTHER DEQ MEMBERS
PRESENT**

Edith Barker, DRC Staff
Johnathon Cook, DRC Staff
Christine Hiaring, DRC Staff
Craig Jones, DRC Staff
Loren B. Morton, DRC Staff
Fred Nelson, Attorney, DEQ/Atty Gen's Ofc
Ray Nelson, DRC Staff
Yoli Shropshire, DRC Staff
William J. Sinclair, M.S.E.H., Deputy Dir., DEQ

GREETINGS/MEETING CALLED TO ORDER

The Utah Radiation Control Board convened in the DEQ Building #2, Room 101, 168 North 1950 West, in Salt Lake City, Utah. The meeting was called to order at 2:00 p.m. by Karen Langley, Chair to the Board. Karen Langley welcomed the Board members and public attending the meeting, and indicated that if the public wished to address any items on the agenda to sign the public sign-in sheet. Those desiring to comment would be given an opportunity to address their concerns during the comment period.

I. APPROVAL OF MINUTES (Board Action Item)

a. Approval of June 4, 2004 Minutes

MOTION MADE BY LINDA M. KRUSE TO APPROVE THE MINUTES OF JUNE 4, 2004 SECONDED BY DAN L. PERRY.

MOTION CARRIED AND APPROVED UNANIMOUSLY

II. RULES No Items

III. RADIOACTIVE MATERIALS LICENSING/INSPECTION No Items

IV. X-RAY REGISTRATION/INSPECTION (Board Action Item) - Craig Jones

a. Approval of Certified Mammography Imaging Medical Physicists Craig W. Jones, Manager, informed the Board that Gene L. Wollen, a medical physicist employed by North Physics Northwest in Oregon, filed for recertification as a mammography-imaging, medical physicist. The Board approved Mr. Wollen in 1996 to provide mammography services in Utah, and he was recertified six times. He has worked continuously in Utah from June 1996 through May 2003. He chose not to renew his certification for the period of June 1, 2003 through May 31, 2004.

Mr. Wollen has submitted a recertification application. Craig W. Jones verified that Mr. Wollen had met all of the regulatory requirements, specifically the requirement for continuing education units and the requirement to perform surveys of mammography facilities.

RECOMMENDATION:

Dane Finerfrock, Executive Secretary, recommended the approval of Gene L. Wollen's recertification application for mammography

imaging medical physicist effective August 6, 2004 through May 31, 2005.

MOTION MADE BY GENE D. WHITE TO APPROVE GENE L.WOLLEN'S RECERTIFICATION APPLICATION FOR MAMMOGRAPHY IMAGING MEDICAL PHYSICIST EFFECTIVE AUGUST 6, 2004 THROUGH MAY 31, 2005. MOTION SECONDED BY GREGORY G. OMAN.

MOTION CARRIED AND APPROVED UNANIMOUSLY

V. RADIOACTIVE WASTE DISPOSAL (Board Information items)

a. Concurrence with the "Plan to Split Groundwater Samples Collected at Envirocare of Utah, Inc." – Loren B. Morton

Loren B. Morton, Manager, said the DRC had drafted a plan to respond to the concerns raised by the Legislative Audit. The Draft Plan (attached) would be used as a guide for some of the DRC's compliance activities at Envirocare. Loren said he would provide a brief introduction, before he discussed the central plan in detail:

Groundwater monitoring is implemented under the Groundwater Discharge Permit. There are three essential functions that are performed:

- (1) First, the permit stipulates certain monitoring activities: such as, which wells are sampled; how often a well is sampled and what parameters are analyzed in the laboratories.
- (2) The second part of the triad is the Quality Assurance Plan. The Groundwater Discharge Permit requires Envirocare to adopt and abide by the Quality Assurance Plan criteria. The QA Plan governs how Envirocare collects samples; how the samples are analyzed and how the data is managed. Envirocare's QA Plan is about three inches thick, and it is very extensive.
- (3) The third part of the triad requires DRC to periodically collect split samples. The purpose of split sampling is to verify that laboratory data being reported to the DRC is valid.

The three parts of the triangle (triad) are very important components of DRC's compliance activities. Again, these three components are: permit requirements, followed by the QA Plan, (the QA Plan governs Envirocare's activities), and third, the split sampling routine.

Loren said the Legislative Auditors had asked the DRC to standardize its process and approach to split sampling. One approach the DRC is considering is to physically observe the field methods, conducted by Envirocare, and determine if they are being completed properly. The

Division will determine and select a frequency for how often they will observe Envirocare's field methods.

There were no published guidelines from other government agencies for precedent/guidance available to the Division; however, the DRC found some relevant analogs. One of the technical-literature analogs provided some guidance about duplicate sampling at the five (5%) percent rate. The Division also considered the information provided to the Division from the Auditors (the Auditors did some investigation of their own). It is as follows: Hanford, Washington, collects split samples at frequencies of about 36% per year and at Barnwell they collect split samples at frequencies of ten percent (10%) per year. From this information, the Division determined a ten percent (10%) rate would be appropriate. Consequently, the Division has proposed a ten percent (10%) rate in its draft plan.

The ten percent (10%) sampling frequency would be a minimum. The Division may elect to conduct split sampling more than the ten percent (10%) minimum in any, one year. The Draft Plan also proposes a return period of 10 years. Consequently, the Division would conduct split sampling for every well at least once every ten years. The split sampling analytes would be the same as those required in Envirocare's permit. Deviations or adjustments to the frequency or analytes studied would be made to satisfy technical or regulatory needs.

The other important element of the Plan is for the Division to make timely evaluation and comparison of laboratory results with those collected by Envirocare. The Division will also utilize its staff's professional judgment for unforeseen conditions not specifically covered by the Draft Plan.

Loren said he appreciated the time and efforts of his staff in preparing the draft "Plan to Split Groundwater Samples Collected at Envirocare of Utah Inc." He said he hoped the Plan would successfully guide the Division's activities in future split sampling efforts at Envirocare. He asked the Board for its concurrence, and said that he would be happy to answer the Board's questions.

Questions from the Board

There was much discussion from the Board and clarification provided by Loren Morton.

Public Comments:

Jason Groenewold, HEAL Utah, commented on the Draft Plan, and there was additional discussion by Board members and Loren Morton.

MOTION MADE BY STEPHEN T. NELSON, VICE CHAIR, TO APPROVE: (1) FIRST, THAT THE AMOUNT OF ACCEPTABLE VARIANCE EITHER BE DEFINED OR REFERENCES MADE IN THE “PLAN TO SPLIT GROUNDWATER SAMPLES COLLECTED AT ENVIROCARE OF UTAH, INC.” REGARDING ACCEPTABLE VARIANCE AND (2) SECOND, ADDITIONAL DISCUSSION ON WHAT THE PROCEDURE WILL BE WHEN “OUT OF VARIANCE” RESULTS ARE FOUND. SECONDED BY JOHN W. THOMPSON.

DISCUSSION ON THE MOTION FOLLOWED:

Karen Langley, Chair, asked the Board to proceed with additional discussion on the motion. She asked Kent Bradford to proceed with the discussion.

ADDITIONS TO THE MOTION:

Kent J. Bradford suggested the following additions to the motion: He asked the Division to reference the quality control guidance documents in the Plan. He said Envirocare's Quality Assurance Plan or an internal procedure should be referenced in the Plan. He asked the Division to include how Envirocare's laboratory samples would be validated; for example, the EPA or NRC split sample validation procedures should be included, if they are being followed. He asked the Division to include what types of laboratory results were being validated, and how the Division was validating the laboratory results. He asked the Division to include the criteria utilized to determine if there was a meaningful difference in the laboratory results.

AMENDMENT TO THE MOTION:

Kent J. Bradford motioned for the Division to include (1) how the data from the laboratory results would be validated and (2) include references to the guidance documents the Division will use for its quality control procedures, and how the Division will collect samples.

Karen Langley asked if there were other issues the Board wanted to discuss about the Draft Plan. She clarified that Kent Bradford and Steve Nelson's motion and amendment were for the Board to revisit the Plan with the revisions at the next Board meeting.

Kent Bradford said he did not want to put a time pressure on the Division. He said the Board was not in a “terrible hurry” to have the revised Plan. He said the Division may need a couple of months to make the revisions.

Karen Langley said that she also did not want the Division to be under a time pressure for the revision to the Draft Plan.

Karen Langley entertained the motion to vote.

CARRIED AND APPROVED UNANIMOUSLY

Staff Summary – Loren Morton

Loren Morton, Manager, provided a summary of the revisions that would be made to the DRC Split Sampling Policy for the Envirocare facility. The Plan would be revised to accomplish the following:

1. Identify the quality assurance (QA) procedures to be used by DRC staff in planning and conducting split sampling fieldwork and lab analysis at Envirocare. They may entail either developing or adopting an independent DRC QA Plan or use of the permittees DRC approved QA Plan.
2. Define the amount of acceptable variance between the DRC and Envirocare split sample results for both radiologic (error term basis) and non-radiologic (table approach) analytes, and
3. Discuss how DRC staff will resolve unacceptable variance that may be found between the two sets of split sample results. This may include investigations to determine the cause in order to explain the discrepancy, repeat split sampling, or other follow-up measures.

After these revisions are made to the Draft Plan, the revised Plan will be presented to the Board for their consideration and concurrence.

(Please note the draft “Plan to Split Groundwater Samples Collected at Envirocare of Utah, Inc. is attached.)

b. Summary of June 15, 2004, Meeting of Hazardous Waste Regulation And Tax Policy Task Force – William (Bill) J. Sinclair

Bill Sinclair, Deputy Director, reported on the June 15, 2004, meeting of the Hazardous Waste Regulation and Tax Policy Task Force. He said there was additional information on the meeting in the Board’s supplemental packet. In the supplemental packet there are summaries of the legislative history as well as the regulatory history (major events in the Envirocare licensing/permit history). The Task Force focused on two major areas: (1) Regulatory and Legislative History of Waste Disposal Approval (2) the Performance Audit of the Department of Environmental Quality’s Commercial Waste Facility Oversight Program.

Shannon Halverson, Associate General Counsel and Bill Sinclair, Deputy Director, discussed the legislative and regulatory history of Envirocare. Members of the Task Force requested Shannon Halverson and Bill Sinclair to make the presentation.

The majority of the meeting focused on the Performance Audit of the Department of Environmental Quality’s Commercial Waste Facility Oversight Program. The Legislative Auditor General’s Office answered questions regarding the audit and then the Department was allowed to respond. Following this discussion, public comment was held.

The Department is actively engaged in resolving the issues presented in the audit report. To date the following actions have been taken:

- (1) The Division of Radiation Control (DRC), Notice of Violation cited in the report as not being sent was mailed to Envirocare.

- (2) A tracking system for the Division of Radiation Control's Notice of Violations has been developed and implemented.
- (3) The "lost" DRC file has been replaced with appropriate explanation.
- (4) A letter was sent to Clean Harbors/Aragonite requesting fee payment as raised in the audit report.
- (5) Draft legislative language on the following: future land ownership, fraction of ton thereof, maximum penalty (Division of Solid and Hazardous Waste), and application of multiple fees has been drafted and is under review internally within DEQ.
- (6) Implementing strategy, including the possibility of building blocks is being developed by DRC for file management and the DEQ is implementing strategy for auditing fees.
- (7) A draft document "Baseline Commercial Waste Facility Oversight" has been prepared and is under review internally.
- (8) A written inspection plan by the Division of Solid and Hazardous Waste (DSHW) is being developed and will be provided to the Solid and Hazardous Waste Control Board for concurrence.
- (9) A written "sampling plan" is being developed by DSHW for treated waste.
- (10) A groundwater, split sampling plan has been developed by DRC, and it will be presented at the August 6, 2004, Board meeting for concurrence.
- (11) A DEQ audit of Envirocare's fee payments has been completed for the period of July 1998 to December 2003.

The Department intends to work closely with the Task Force in bringing the outstanding issues to conclusion.

c. Cedar Mountain Environmental – Update on the Siting Plan, Public Comment Period and Report of Final Agency Action – Dane L. Finerfrock

Dane Finerfrock, Executive Secretary, said the public comment period on the Cedar Mountain Environmental siting application closed on August 3, 2004. During that period the DRC had a 60-day comment period. There were two public hearings held, one on June 28, 2004, at DEQ Bldg #2, in Salt Lake City. There was one individual that made comments from HEAL Utah. On June 29, 2004, a meeting was held in Tooele County. There was no one present and no comments during that hearing. The written comments came from HEAL Utah and Envirocare.

The comments will be evaluated and reviewed and answers will be prepared. If the comments merit the DRC to revise the siting application report, the report will be revised. However, the comments, the process of resolving the comments and any information gathered will be summarized in a public comment document. After the comments are resolved, the final Siting Evaluation Report will be prepared, and the final decision from the Executive Secretary will be made.

Dane said that based on his review of the comments, the DRC should be four to six weeks from finalizing and closing Cedar Mountain's siting application.

He said that prior to the meeting Commissioner Gene White wanted to bring up some issues regarding the process. He said, if the Board did not object this would be an appropriate time to consider comments from the Board and for Commissioner White to bring his comments forward.

Comments from the Board

Gene White, Commissioner, said his purpose in bringing this issue forward was to reduce any unnecessary cost that might occur in the Cedar Mountain Environmental (CME) permitting process. He said that he reviewed the history of CME's application through February 2003. He said there was a letter from Bill Sinclair indicating he was concerned about the monies the DRC might have to spend in order to supervise or monitor a second waste facility. Apparently, the money to monitor a second waste disposal facility was on back of his mind.

Commissioner White said it was his understanding that UCA Section 19-3-105, section 3 empowers the Radiation Control Board to suspend acceptance of applications in the event the DRC cannot oversee the additional, license-compliance monitoring and enforcement. He said he did not know if there were any legal implications, since the application is already in process. He said he felt the Division did not have the resources, at the present time, to regulate another facility.

Gene White asked if the Division would incur any costs in addition to the application fee paid for by Cedar Mountain. Dane Finerfrock responded. He said there was a fee schedule. In the fee schedule, there was a maximum fee that can be charged to the applicant for the current stage of Cedar Mountain's license review. Dane said the Division was using, the consultants, URS Corporation. URS estimated what they believed the costs would be based on the application that Cedar Mountain provided. URS's estimate includes the entire application process. This includes participation in the public comment and preparing the final documents. Cedar Mountain has paid the estimated amount. If the Division's costs exceed the estimated amount, the Division can request additional money

from Cedar Mountain. He said, however, there was adequate money left to complete the process.

Gene White asked at what stage the land ownership would have to be established for the Cedar Mountain application to move forward.

Dianne Nielson, Director, said that it was her understanding the Division or a third party could bring the issue of land ownership to the Board at any time. The issue of land ownership must be resolved, before the final decision is made by the Board. She said it would also have to be resolved, before the final public comment on the license. She asked Fred Nelson, Attorney for DEQ, to clarify that someone, who had standing on the issue of land ownership, could raise the issue of land ownership.

Fred Nelson, Attorney for DEQ, said that he felt it would be premature of the Board to consider the issue of land ownership, until the application was submitted.

Dane Finerfrock said that land ownership was not one of the requirements necessary to meet the siting criteria for Cedar Mountain's application.

Fred Nelson asked if the application required the approval of the Governor.

Dane Finerfrock said that Cedar Mountain Environmental argued that they should not be required to obtain the Governor's approval, since it was not a requirement when they made their initial submission. In order to avoid litigation, the issue of land ownership will be answered during the application phase.

VI. URANIUM MILL TAILINGS UPDATE (Board Information item)

a. Update on Amended Agreement Between the State of Utah and the U.S. Nuclear Regulatory Commission – Dane L. Finerfrock

Dane Finerfrock, Executive Secretary, indicated that Item VI has to do with the Agreement State status for Uranium Mills. Dane said that he had spoken to the U.S. Nuclear Regulatory Commission (NRC) on August 6, 2004. He was told that the Agreement is on the NRC Commissioner's desk, and the agreement was expected to be signed today, August 6, 2004. The agreement will likely arrive at DEQ on Monday or Tuesday, August 9 or 10, 2004. After it arrives at DEQ, Dianne Nielson will take it to Governor Olene S. Walker.

VII. OTHER DIVISION ISSUES (Board information item)

a. New Hires at Division of Radiation Control - Dane Finerfrock

Dane Finerfrock, Executive Secretary, introduced Johnathan Cook and Christine Hiaring. Dane invited the new employees to tell the Board about themselves:

Christine Hiaring said she had B.S. degree in Geology from Idaho State University. She said that she spent thirteen years at the Idaho National Engineering and Environmental Laboratory (INEEL). At INEEL she managed comprehensive, environmental response and the Compensation and Liability Act (“superfund”) projects. She implemented the characterization investigation of the Radioactive Waste Management Complex including the infamous “Pit 9”. She also developed INEEL’s long-term stewardship, monitoring program. Christine said she looked forward to being involved in Radiation Control’s Health Physics Program.

Johnathan Cook said he held a Masters degree in Civil Engineering from the University of Utah. He said he had eight years consulting experience. He has worked in both the semi-government and private sectors. His efforts have been focused on water resources and transportation projects. He said he worked on the light rail project for UTA and on the Alameda Corridor project in California. He also worked on the I-25 T-Rex project in Denver, and recently, he has been involved in construction-management in Tooele County.

VIII. PUBLIC COMMENT

Jason Groenewold, Heal Utah, commented on DRC’s draft “Plan to Split Groundwater Samples Collected at Envirocare of Utah, Inc.”

IX. OTHER ISSUES

Next Board Meeting – September 10, 2004, Department of Environmental Quality, Building 2, Room 101, 168 N 1950 West, Salt Lake City, Utah.

MOTION MADE BY GREGORY OMAN TO ADJOURN THE MEETING, THE MOTION WAS SECONDED BY ROBERT PATTISON.

THE BOARD MEETING ADJOURNED AT 3:40P.M.

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY DIVISION OF RADIATION CONTROL GUIDANCE DOCUMENT FOR COLLECTING SPLIT SAMPLES FROM GROUNDWATER MONITORING WELLS AT THE ENVIROCARE OF UTAH, INC. LOW-LEVEL RADIOACTIVE WASTE AND 11e.(2) WASTE DISPOSAL FACILITY

The purpose of this guidance document is to define the policy that will be followed by Utah Department of Environmental Quality (DEQ) Division of Radiation Control (DRC) personnel in conducting split groundwater samples at the Envirocare of Utah, Inc. (Envirocare) Clive, Utah low-level radioactive waste and 11e.(2) waste disposal facility.

INTRODUCTION

The Envirocare waste disposal facility operates under Ground Water Quality Discharge Permit No. UGW450005 (Permit); which is managed by the DRC under authority of the DEQ Division of Water Quality (DWQ). The Permit is the primary tool used by DRC to protect groundwater quality at the site and requires Envirocare to install, maintain, and regularly sample a monitoring well network to determine performance of the various disposal operations. Currently, waste is placed in the Class A, Low-Activity Radioactive Waste (LARW), Mixed Waste, and 11e.(2) waste disposal cells, as well as several wastewater disposal ponds. Permit requirements include details such as the number and location of groundwater monitoring wells, sampling frequency, sampling analyte list, and protection levels for each monitoring well. The Permit also requires Envirocare to ensure the quality of groundwater sampling and analysis through use of an approved Quality Assurance Plan (QAP). The QAP specifies the sample collection and handling techniques that must be followed, laboratory analytical methods, type and number of quality control samples that must be collected, internal laboratory quality control requirements and analytical acceptance limits, analytical detection levels, etc.

As part of the groundwater protection program, the DRC periodically collects duplicate or split groundwater samples for independent laboratory analysis. When conducting split sampling, DRC personnel accompany the Envirocare groundwater sampling team during a regularly scheduled sampling event and collect groundwater samples from the same wells at the same time as the Envirocare staff. This process ensures that the samples are collected under identical conditions (season of year, time of day, weather conditions, well purge technique and volume, etc.) to minimize the variables between samples collected by the DRC and Envirocare.

OBJECTIVE OF COLLECTING SPLIT SAMPLES

The primary objective for the DRC split sampling program is to verify that the data being collected and reported by Envirocare are accurate and representative of groundwater conditions at the site. This is achieved through the following tasks:

- **observing and verifying that appropriate field sampling methods are employed by Envirocare, and thereby verify collection of reliable and accurate field data,**
- **verifying the laboratory analytical results reported by Envirocare through independent laboratory analysis of the split samples and data comparison, and**
- **ensuring sample validity.**

Each task is described in further detail below.

Field Sampling Methods. When accompanying Envirocare groundwater sampling staff during a split sampling event, DRC personnel have the opportunity to observe their routine sampling practices. DRC staff can verify the monitoring wells are in operable condition, and determine if sample collection tasks such as water level measurements, purge volume calculations, purge rates, sample collection sequence, sample preservation and handling techniques, etc. are in accordance with Permit requirements.

Laboratory Analytical Results. DRC submits their split samples to an analytical laboratory that is independent of Envirocare's laboratory. This provides the opportunity to compare the results between the differing laboratories. Since the samples have been collected under the same field conditions, discrepancies in the results are primarily indicative of sample handling, preparation, and laboratory analytical techniques. A certain amount of variance in results obtained by each laboratory is normal and expected. However, if the variance is outside of acceptable limits, further investigation is warranted to determine the source of the discrepancy. If the discrepancy cannot be resolved, the analytical result may be disqualified, and/or the Permittee may be required to resample or reanalyze.

Sample Validity. Collecting split samples and verifying the independent analytical results allows the DRC to ensure sample validity. This process allows detection of errors that can arise both in the field (e.g. sample mislabeling) and in the laboratory (e.g. erroneous methods, detection limits, etc.) and promotes diligence on the part of the Permittee to provide proper attention and quality control in their groundwater monitoring program.

SPLIT SAMPLING FREQUENCY

DRC policy is to conduct split sampling of groundwater monitoring wells at the Envirocare facility on an annual basis. Consistent with other oversight activities performed by DRC at the Envirocare facility, each split sampling event is performed as a groundwater inspection module.

In accordance with industry standards, duplicate samples are typically collected from at least 5% of the sample set^{1,2} (monitoring wells). To ensure the DRC split sampling program is rigorous and consistent with other low-level radioactive waste disposal sites³, split samples will be collected from 10% of all monitoring wells at the Envirocare facility.

MONITORING WELL SELECTION/RETURN SAMPLING INTERVAL

A different set of Envirocare monitoring wells will be chosen for split sampling annually. As a result, each well will be sampled at least once during a 10-year period (10-year maximum return interval). Individual wells may be sampled more than once within any given 10-year period in response to technical or regulatory needs as determined by DRC staff.

Selecting a different set of wells each year ensures that Envirocare and their laboratory are subjected to the DRC sample validation process over the entire range of groundwater hydrology and chemistry conditions at the site.

ANALYTE SELECTION

DRC split samples will be collected and analyzed for the same analyte list as those collected by Envirocare, in compliance with Permit requirements. However, in consultation with DRC management, the analyte list may be adjusted in response to special technical or regulatory needs.

LABORATORY SUPPORT

In order to facilitate a timely comparison of the split sample data and timely correction of sampling or analytical errors that may be identified, it is important to receive the laboratory results as quickly as possible. To achieve this goal, DRC split sampling staff will require the laboratory to turn-around results within 45 days of sample receipt. In the event that the State Health Laboratory cannot meet the 45-day deadline, another laboratory will be contracted to perform analytical services. If use of an outside laboratory results in increased resources needed to conduct the split sampling event, the DRC will immediately request those resources from DEQ.

DRC DATA EVALUATION

In order to facilitate facility compliance and timely correction of sampling or analytical errors that may be identified, it is important to review and evaluate the split sampling results as soon as possible. To this end, DRC staff will complete their review of the split sampling data and prepare a written report for management approval within 45 days of receipt of the laboratory results.

UNFORESEEN CONDITIONS

Guidance presented herein represents the *minimum* routine monitoring that will be conducted, but does not exclude professional judgment by DRC staff which could include collecting additional samples. Therefore, this guidance shall not limit the DRC staff's ability to act on exigent conditions, or investigate anomalous results in the planning of any split sampling event at the Envirocare facility.

References

¹ *Standard Methods for the Examination of Water and Wastewater*, 20th Edition, 1998. American Public Health Association, American Water Works Association, Water Environment Federation. Washington, D.C. p. 1-7

² United States Environmental Protection Agency, et al., 1997. Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM), EPA 402-R-97-016. Washington, D.C. December 1997 (Final). p. 4-34.

³ **10% annual split sampling rate by the State of South Carolina at Barnwell ChemNuclear low-level radioactive waste disposal site. Dane Finerfrock, 2004 personal communication with Henry Porter of South Carolina Department of Health and Environmental Control, Assistant Director Division of Waste Management Bureau of Land Waste and Management, July 2004.**